

IN THE CLAIMS

1. (Currently Amended) A method of forming a polyethercarbonate polyol comprising the steps of:

a) providing a multimetal cyanide compound having a crystalline structure and a content of platelet-shaped particles of at least 30% by weight, based on the weight of the multimetal cyanide compound and further comprising at least two of the following: at least one organic complexing agent, water, at least one polyether, and at least one surface-active substance; and

b) reacting an alcohol initiator with at least one alkylene oxide and carbon dioxide under a positive pressure in the presence of the multimetal cyanide compound, thereby forming a polyethercarbonate polyol having a polydispersity of less than 2.0.

2. (Original) The method of claim 1, wherein step b) comprises reacting an alcohol initiator having a functionality of from 1 to 8 with at least one alkylene oxide and carbon dioxide under a positive pressure in the presence of said multimetal cyanide compound.

3. (Original) The method of claim 1, wherein step b) comprises reacting an alcohol initiator having a functionality of from 1 to 4 with at least one alkylene oxide and carbon dioxide under a positive pressure in the presence of said multimetal cyanide compound.

4. (Original) The method of claim 1, wherein step b) further comprises reacting an alcohol initiator having a functionality of from 1 to 8 with at least one first alkylene oxide to form an oligomer and then reacting the oligomer with at least one second alkylene oxide and carbon dioxide under a positive pressure in the presence of said multimetal cyanide compound.

5. (Original) The method of claim 1, wherein step b) comprises reacting an alcohol initiator with a plurality of alkylene oxides and carbon dioxide under a positive pressure in the presence of said multimetal cyanide compound.

6. (Original) The method of claim 1, wherein step b) comprises reacting an alcohol initiator with propylene oxide and carbon dioxide under a positive pressure in the presence of said multimetal cyanide compound.

7. (Original) The method of claim 1, wherein step b) comprises reacting an alcohol initiator with at least one alkylene oxide and carbon dioxide under a positive pressure of from 10 to 3,000 psi in the presence of said multimetal cyanide compound.

8. (Original) The method of claim 1, wherein step b) comprises reacting an alcohol initiator with at least one alkylene oxide and carbon dioxide under a positive pressure of from 90 to 2,500 psi in the presence of said multimetal cyanide compound.

9. (Original) The method of claim 1, wherein step b) comprises reacting an alcohol initiator with at least one alkylene oxide and carbon dioxide under a positive pressure of from 90 to 2,000 psi in the presence of said multimetal cyanide compound.

10. (Original) The method of claim 1, wherein step b) comprises reacting an alcohol initiator with at least one alkylene oxide and carbon dioxide under a positive pressure in the presence of said multimetal cyanide compound at a temperature of from 40 to 180 °C.

11. (Original) The method of claim 1, wherein step b) comprises reacting an alcohol initiator with at least one alkylene oxide and carbon dioxide under a positive pressure in the presence of said multimetal cyanide compound at a temperature of from 90 to 130 °C.

12. (Original) The method of claim 1, wherein step b) comprises reacting an alcohol initiator with at least one alkylene oxide and carbon dioxide under a positive pressure in the presence of said multimetal cyanide compound to produce a polyethercarbonate polyol having a carbonate content of from 1 to 30 % calculated as the weight percent CO₃ in the polyethercarbonate polyol.

13. (Original) The method of claim 1, wherein step b) comprises reacting an alcohol initiator with at least one alkylene oxide and carbon dioxide under a positive pressure in the presence of said multimetal cyanide compound to produce a polyethercarbonate polyol having a carbonate content of from 2 to 20 % calculated as the weight percent CO₃ in the polyethercarbonate polyol.

14. (Original) The method of claim 1, wherein step b) comprises reacting an alcohol initiator with at least one alkylene oxide and carbon dioxide under a positive pressure in the presence of said multimetal cyanide compound to produce a polyethercarbonate polyol having a carbonate content of from 5 to 15 % calculated as the weight percent CO₃ in the polyethercarbonate polyol.

15. (Original) The method of claim 1, wherein step b) comprises reacting an alcohol initiator with at least one alkylene oxide and carbon dioxide under a positive pressure in the presence of said multimetal cyanide compound to produce a polyethercarbonate polyol having a number average molecular weight of from 200 to 20,000 Daltons.

16. (Original) The method of claim 1, wherein step b) comprises reacting an alcohol initiator with at least one alkylene oxide and carbon dioxide under a positive pressure in the presence of less than or equal to 1.0 % by weight based on the weight of the polyethercarbonate polyol of said multimetal cyanide compound.

17. (Original) The method of claim 1, wherein step b) comprises reacting an alcohol initiator with at least one alkylene oxide and carbon dioxide under a positive

pressure in the presence of less than or equal to 0.5 % by weight based on the weight of the polyethercarbonate polyol of said multimetal cyanide compound.

18. (Original) The method of claim 1, wherein step b) comprises reacting an alcohol initiator with at least one alkylene oxide and carbon dioxide under a positive pressure in the presence of less than or equal to 0.02 % by weight based on the weight of the polyethercarbonate polyol of said multimetal cyanide compound.

19. (Original) The method of claim 1, wherein step a) comprises providing a multimetal cyanide compound having a crystalline structure and a content of platelet-shaped particles of at least 50% by weight, based on the weight of said multimetal cyanide compound and comprising at least two of the following: at least one organic complexing agent, water, at least one polyether, and at least one surface-active substance.

20. (Original) The method of claim 1, wherein step a) comprises providing a multimetal cyanide compound having a crystalline structure and a content of platelet-shaped particles of at least 70% by weight, based on the weight of said multimetal cyanide compound and further comprising at least two of the following: at least one organic complexing agent, water, at least one polyether, and at least one surface-active substance.